2020 SEND Survey Results

5th annual survey

Survey Team:
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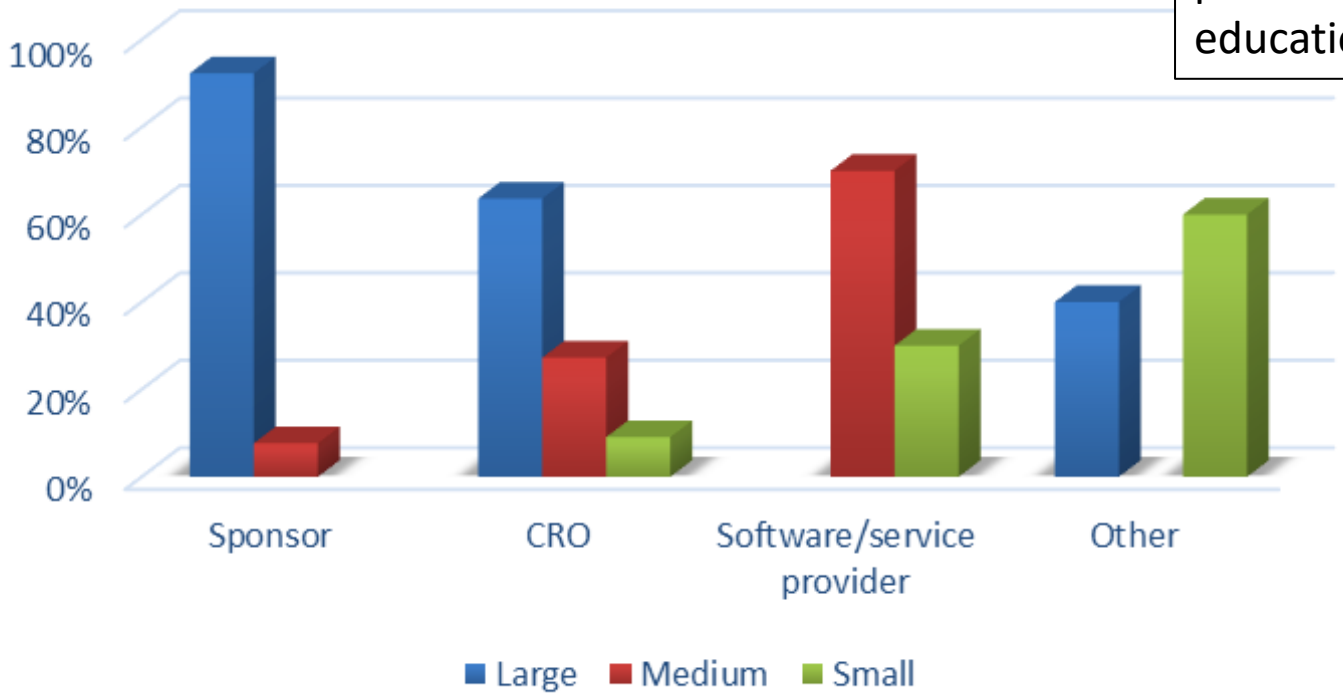
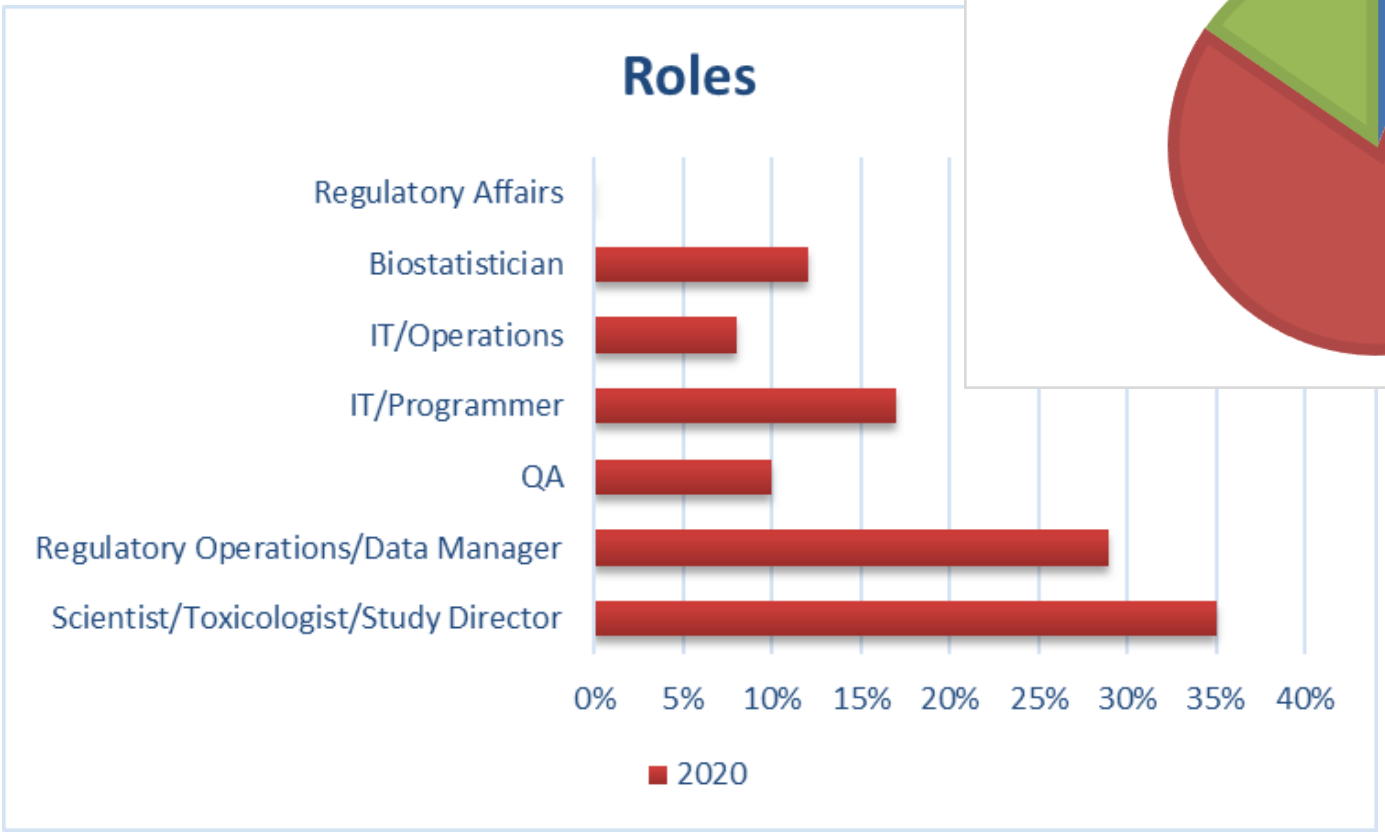
Demographics (n=52)

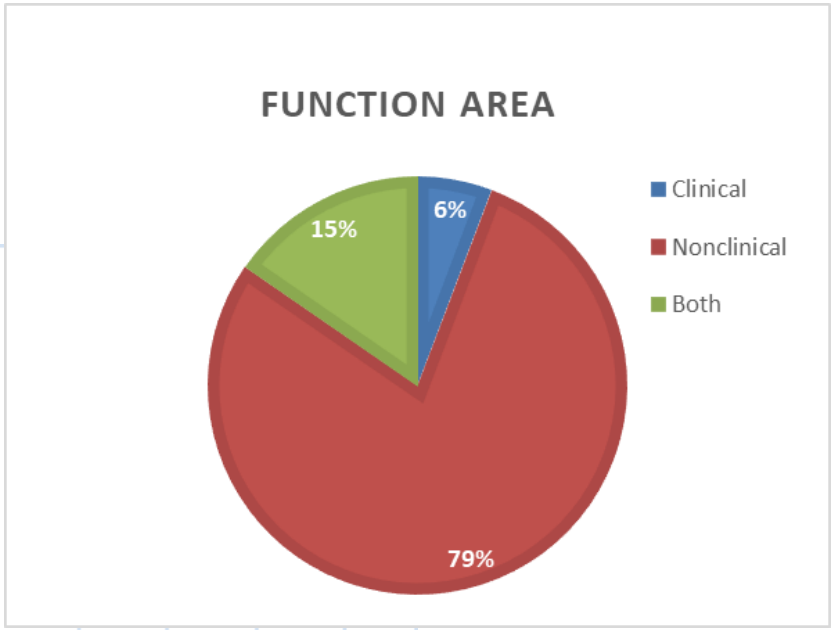
50% of the responses were from Sponsors, with 23% of responses from CROs, 19% from software/service providers and 3 consultants, 1 education, 1 government.



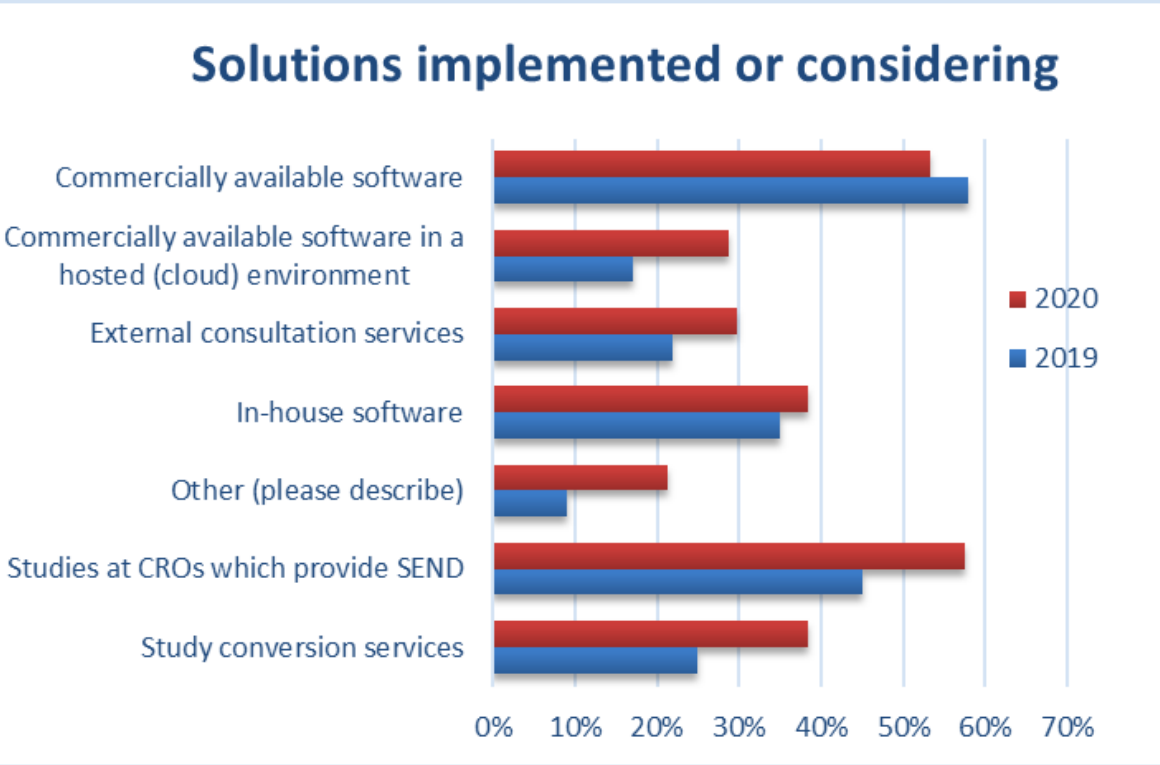
Q3. Where are you located?

Q4 & 5. Roles


Roles
Regulatory Affairs
Biostatistician
IT/Operations
IT/Programmer
QA
Regulatory Operations/Data Manager
Scientist/Toxicologist/Study Director
0%
5%
10%
15%
20%
25%
30%
35%
40%
2020


FUNCTION AREA
6%
15%
79%
Clinical
Nonclinical
Both

Q6. SEND Solutions (n=47)

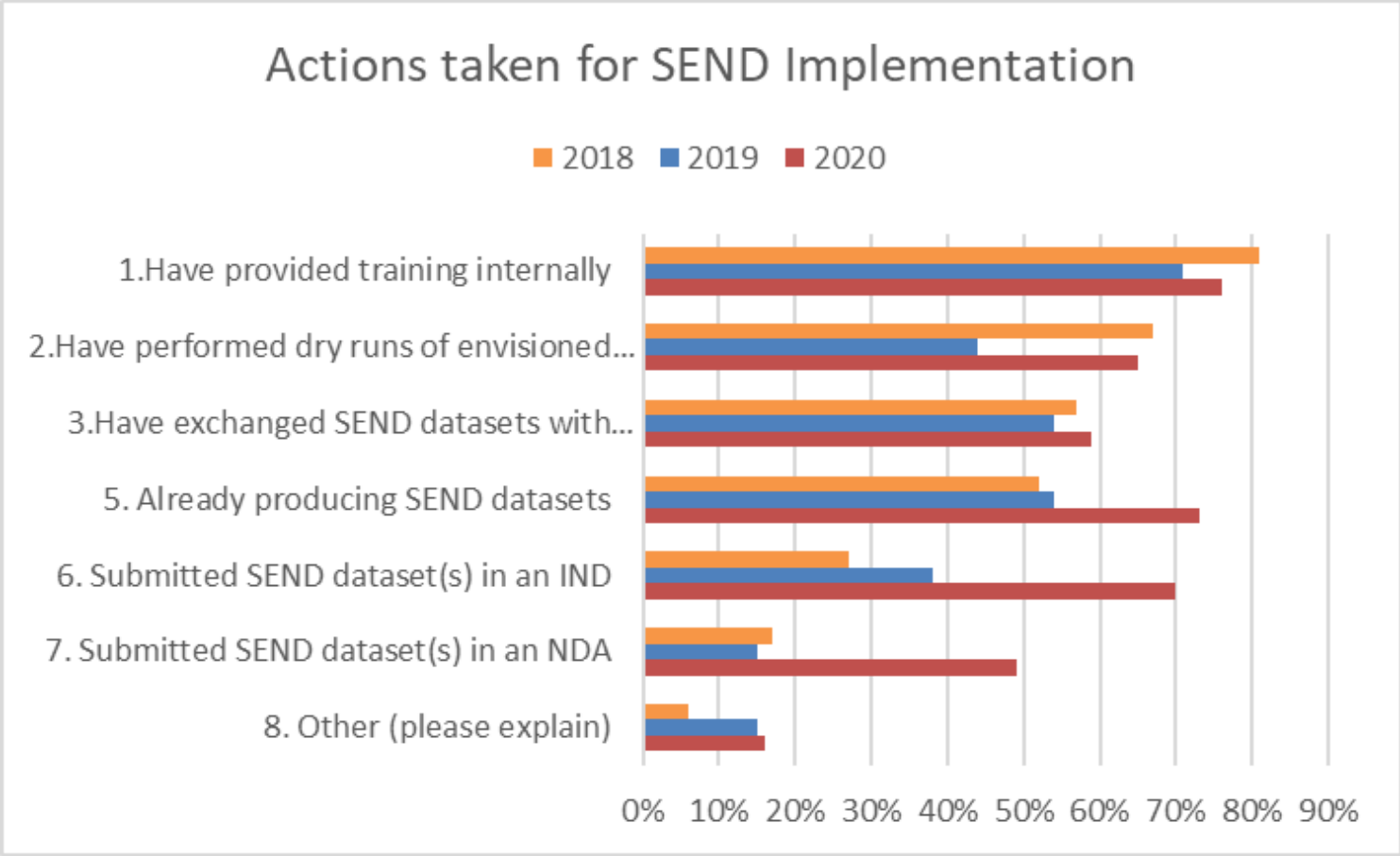


Biggest shifts are
an increase in SEND conversion services (+13%), use of cloud based systems (+12.5%), and
SEND from CROs (+12.3%).

Other comments noted use of

-Customized/modified commercial software (2)
-Open source desktop software
-Open source visualization software
-SAS program
-Working yet to use SEND

Q7. Implementation (n=37)



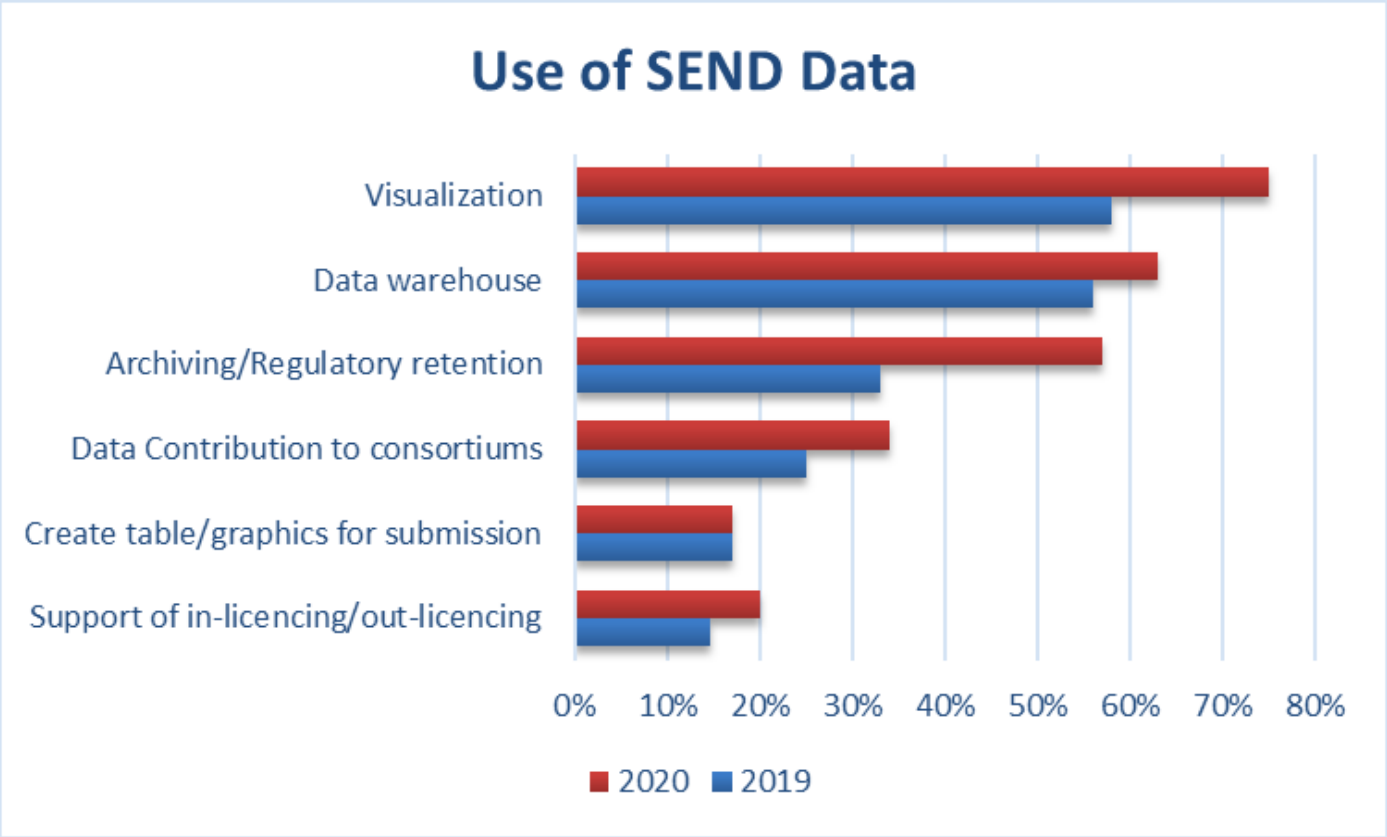
Big increase in submissions for INDs and NDAs this year.

Q7. Actions for SEND Implementation

Other:
1. External training and webinars; Formed internal SEND group; participation in Pilots; validation of internal application
2. Have implemented the CDISC Library API for working with SEND
3. Have outsourced SEND dataset conversion for internally conducted studies. Have also generated manual files for SEND conversion.
4. analysis using commercial software.
5. Participation in PhUSE, CDISC teams; attendance at PhUSE, CDISC conferences.
6. Provide SEND calibration (100%) against Study Report, Automated conversion of SEND in any IG & CT to a universal data model for unlimited cross study analysis

Q8. How will you use SEND data?

(all that apply) n=35



All categories saw an increase in use, except creating tables for submission (no change).

Q8. Uses for SEND data, cont.

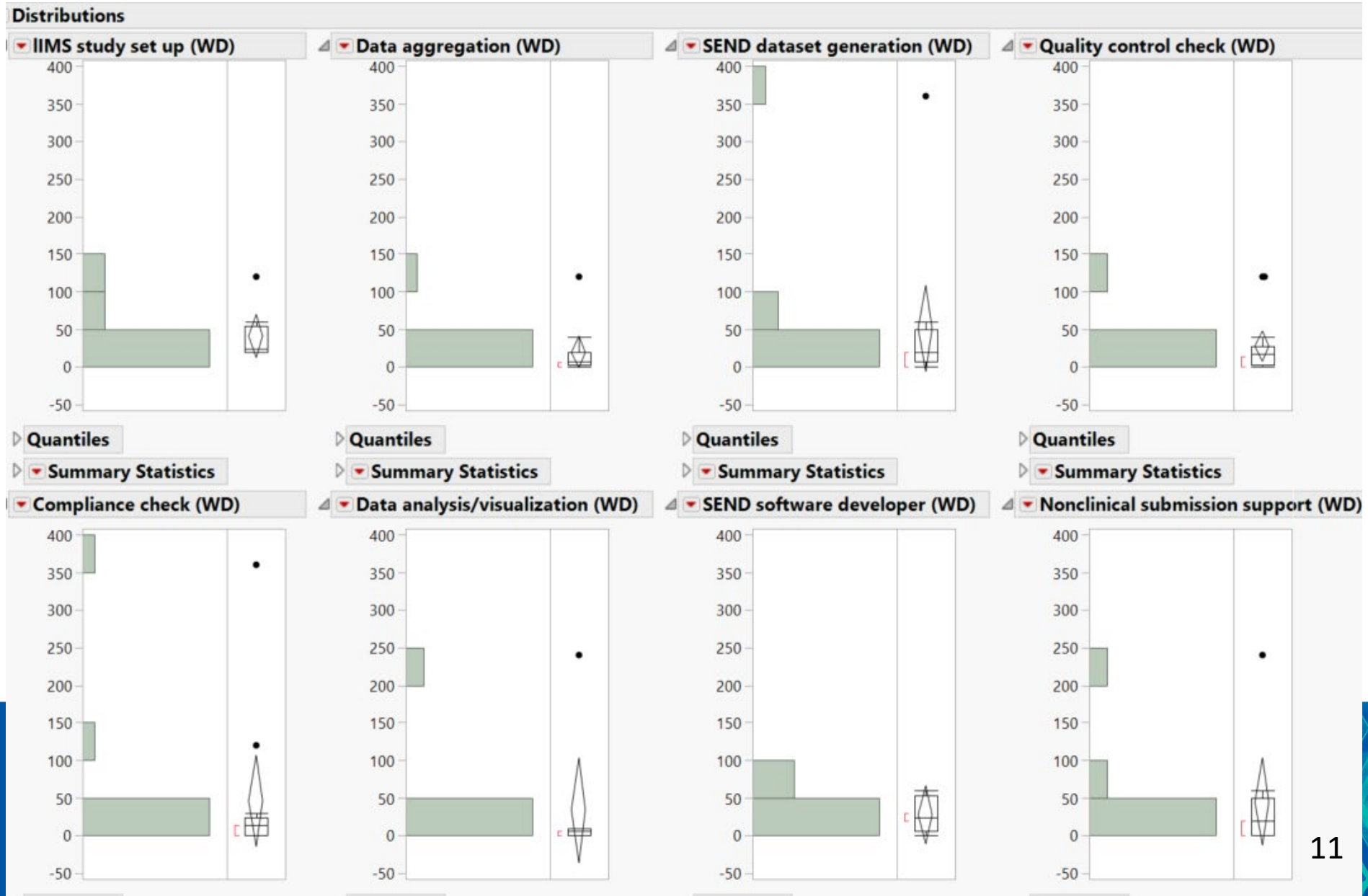
Other (22%):

- adhoc **analyses**, exploratory **analyses**
- Data **analysis** of toxicology studies.
- Data **analysis** to support changes in Phase I clinical protocol.
- Report table/graphics creation for in-house **study result interpretation**
- Legacy study **conversion**,
- Only by specific acceptance of the sponsor, it may be used in consortiums or for **training** purposes.
- Developing SEND **Training** Sets for Toxicology Analysis and Review purposes for unusual or upcoming IGs
- Only for submission
- Potential **visualization** post-submission at this time.
- Interim SEND datasets for **Study Monitoring**

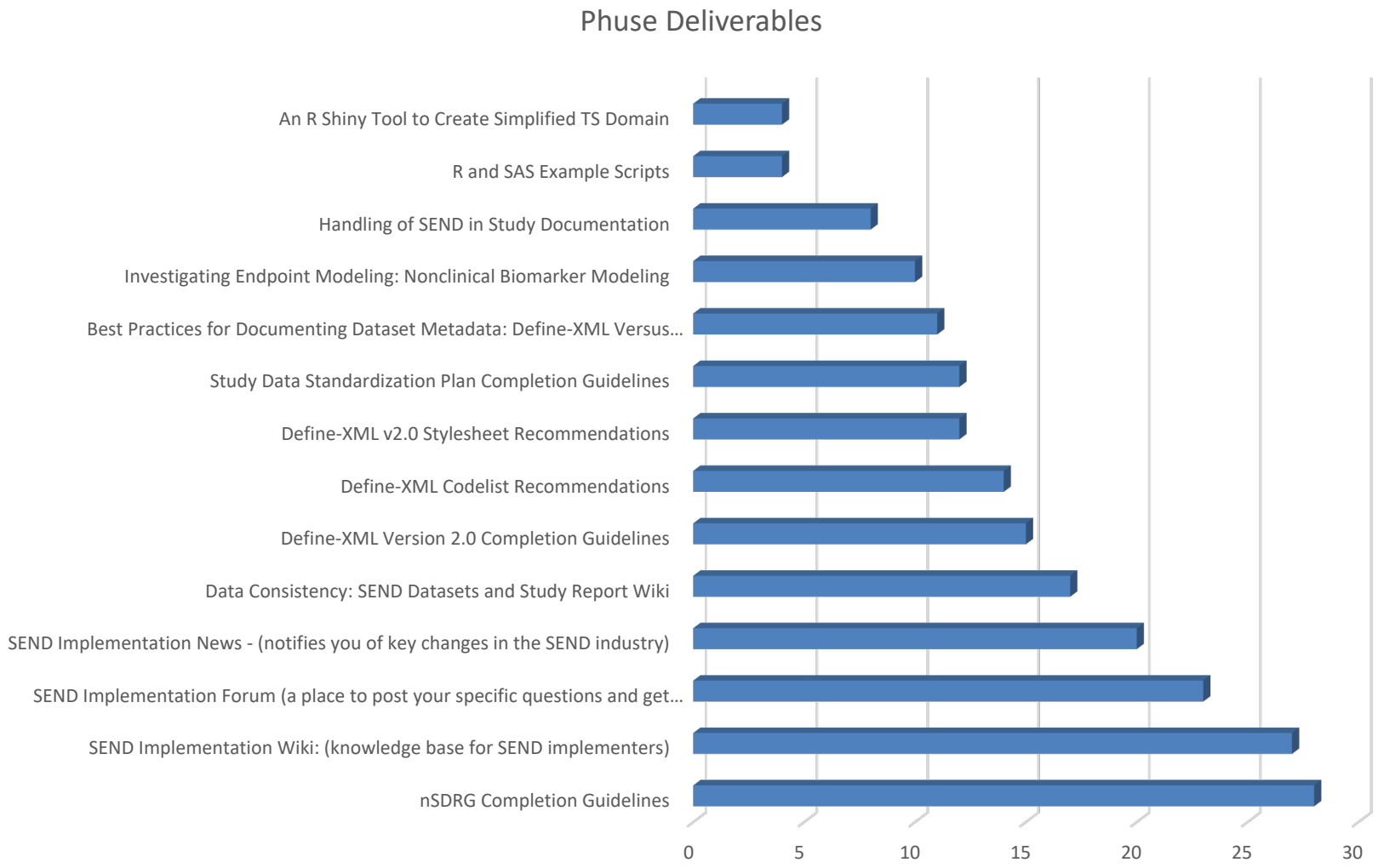
- Q9. How did you train your personnel in the past year? (up to 3) (N=36)

Other:
By participation in automation tool development, computer based training using simulated synthetic SEND datasets
FDA face to face meetings.
No training necessary.
RTFM
Self learning through the activities in CDISC Japan User Group
self-study, no formal training

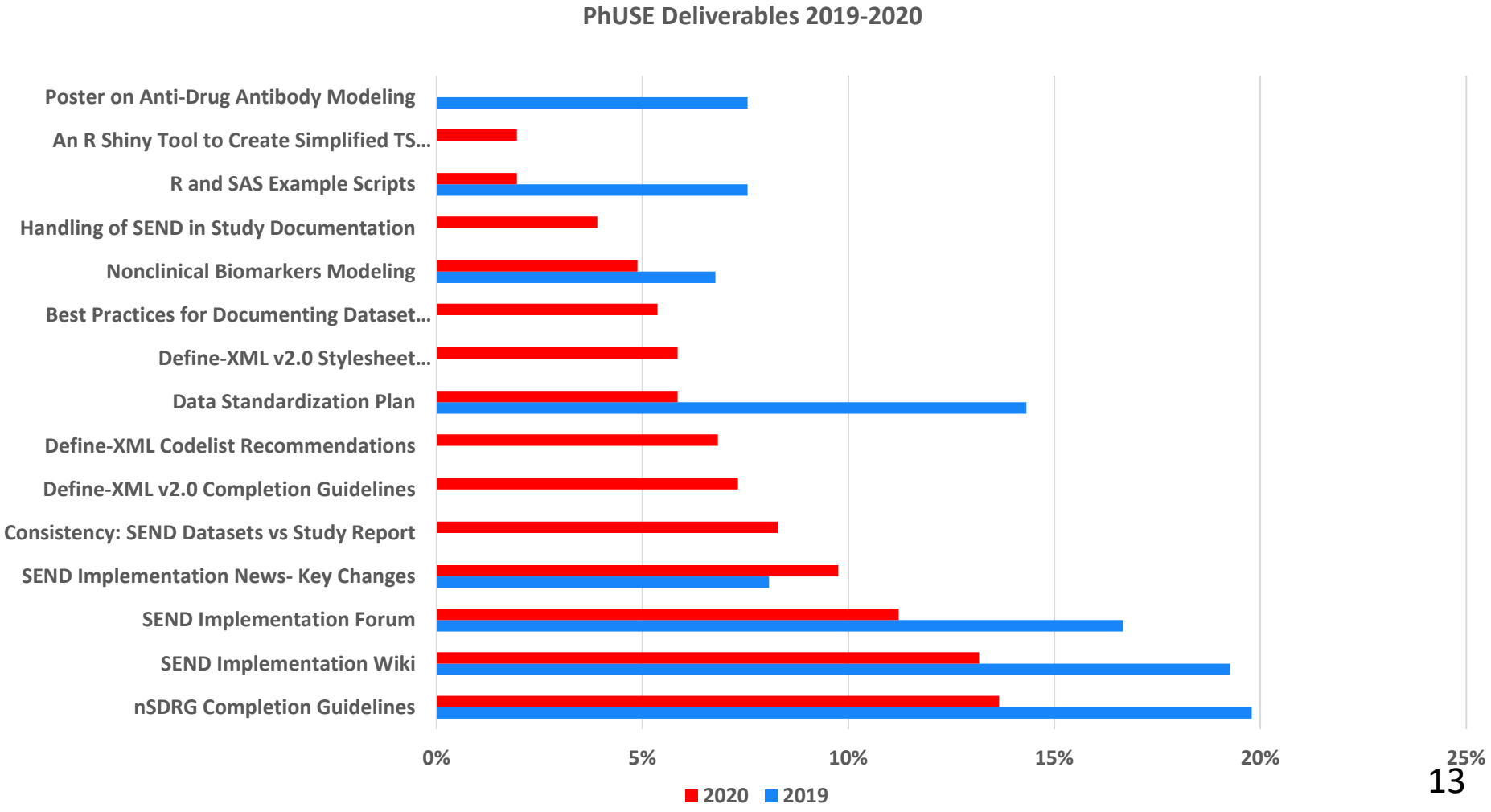
Q10. How long does it take your organization to train a new individual in a SEND-focused task? N=26



Q11. PhUSE deliverables



2020 Q11. PhUSE deliverables

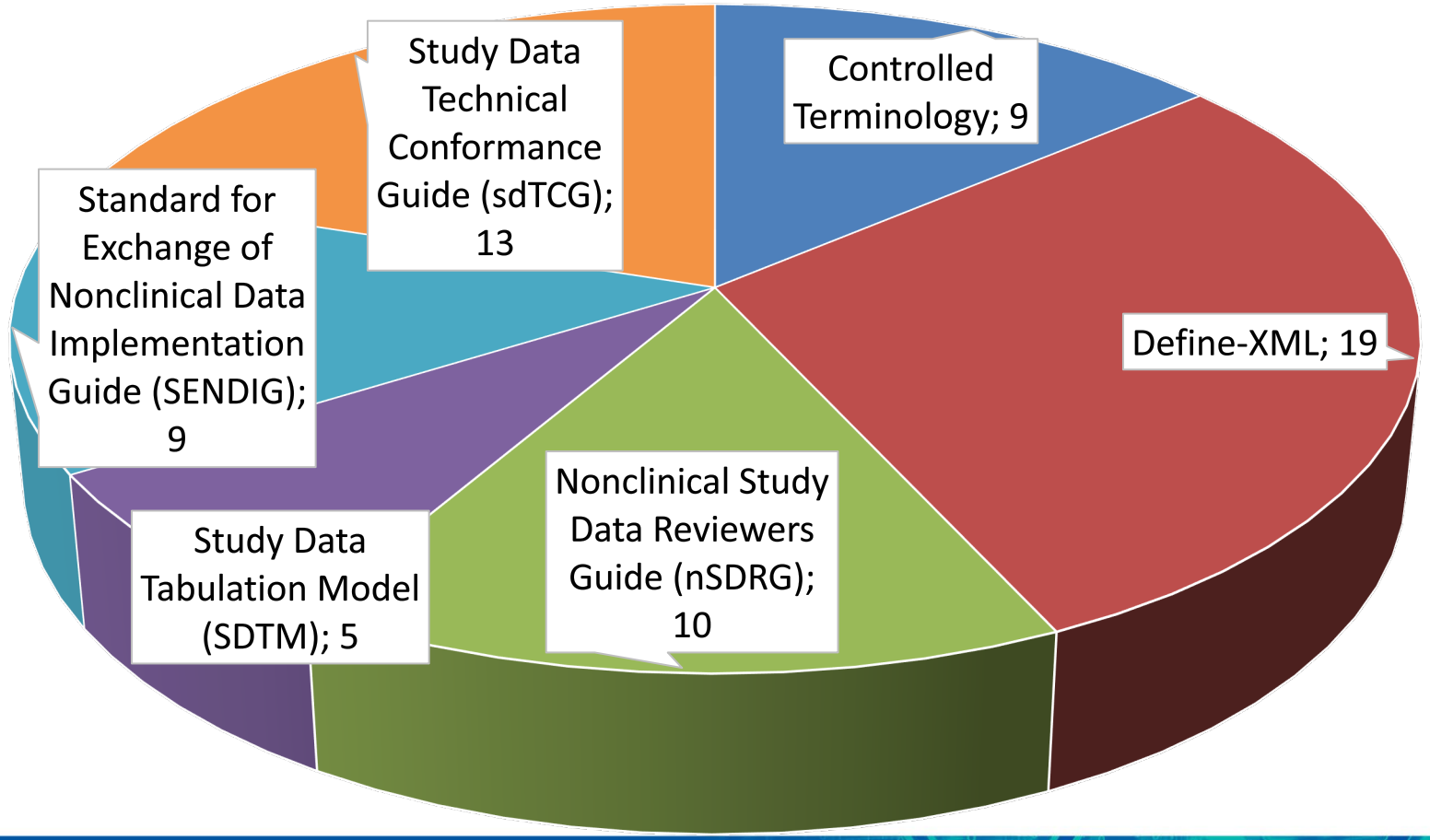


Q11. PhUSE deliverables comments

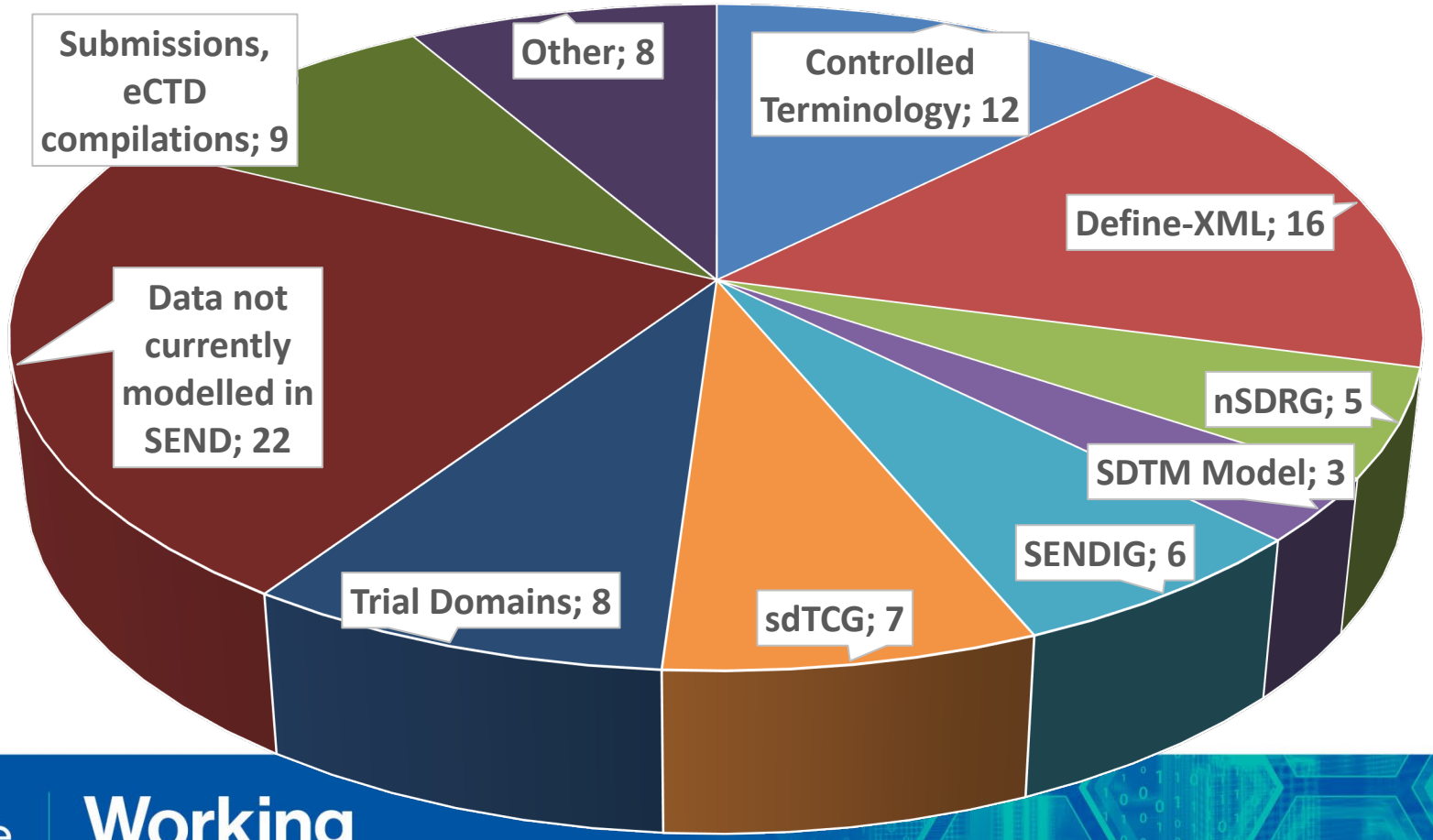
Handling of SEND in Study Documentation...as a beginning overview - not really referenced after that.
Endpoint modeling of Nonclinical Biomarkers is done internally and with clients - but PhUSE Wikis were not yet referenced.
Why only SAS and R script? There is much better! Especially SAS is completely overkill for generating SEND datasets

Q12. Standards/Regulations Resulting in Most Burden

(n=33)



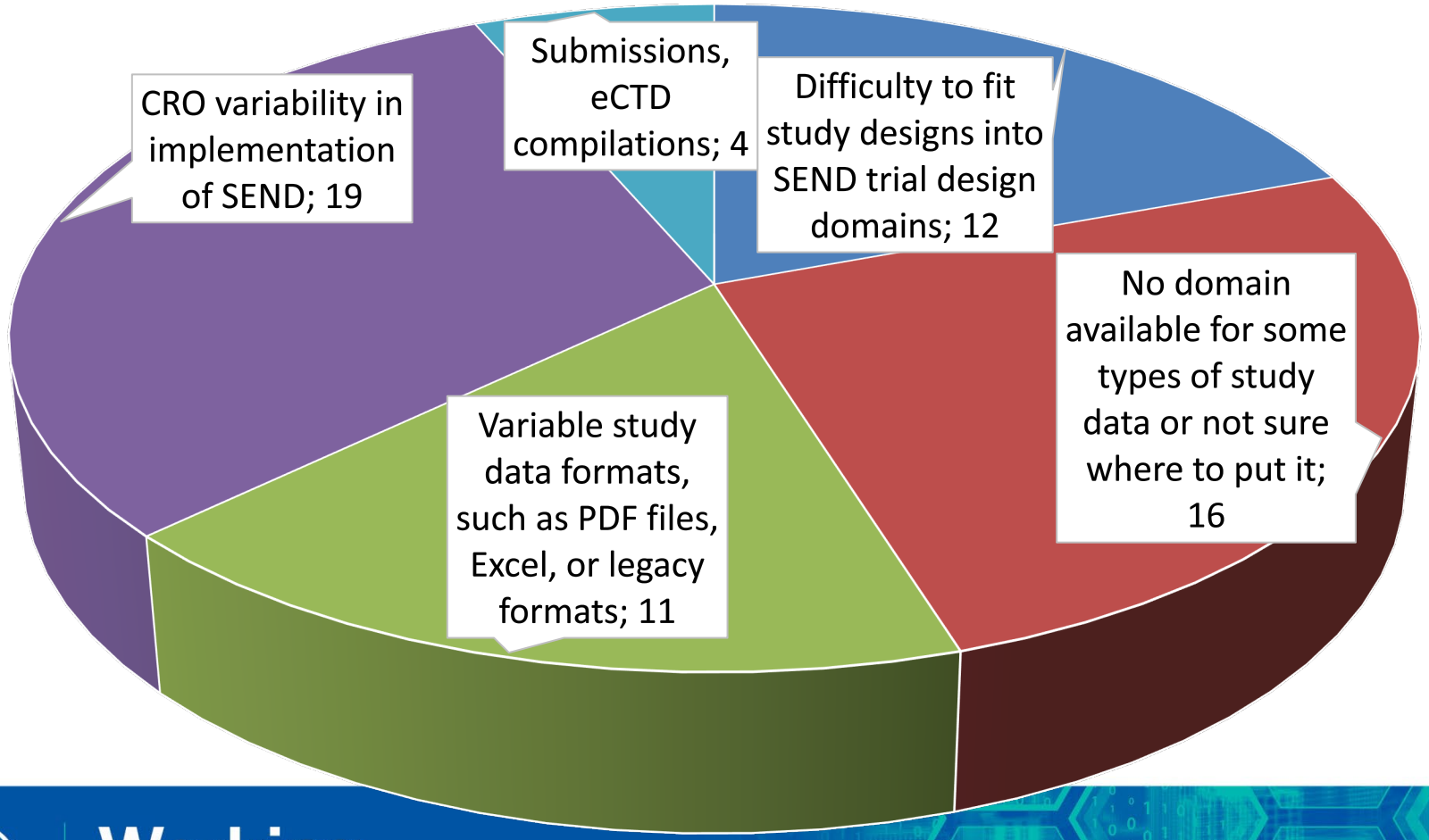
2019 Stumbling blocks or barriers for your organization? (n=39)



Q12. Standards/Regulations Resulting in Most Burden comments

Brief	Full comment
SDTM/Clinical applied to Nonclinical	Some inconstancies in the varying documentation has been a challenge; SDTM/Clinical processes being applied to Nonclinical/SEND creates some confusion.
Terminology, multi-site studies, scientists awareness of SEND	Aligning terminology and deliverable timelines when conducting multi-site studies, scientists unaware of SEND requirements
TCG	TCG takes time to evaluate and implement changes and expectations are it should be immediately as soon as published
SDSP	None have really been an issue. We spend more time discussing the SDSP than what is listed above.
TCG	TCG comes out too frequently for implementation as many thing require software updates or global process updates.
CT, Define, nSDRG, sdTCG	CT: quarterly updates good, but require evaluation of changes and change control to upgrade; Define and nSDRG: subjective in nature with sponsors and FDA at varying degrees of understanding; sdTCG: recommendations that override or clarify the IG, no clear implementation timeline, sponsors vary on adoption of recommendations, e.g., some still want the BG domain

Q13. Which of the following aspects of SEND implementation are challenging for your organization? (n=37)



Q13. SEND Implementation comments 1/2

Brief	Full comment
CRO Variability	variability in CRO interpretation of SENDIG
CRO/Sponsor understanding, hiring SEND SMR	It is the biggest challenge that unified specification between CRO and Sponsor is established based on correct understanding of various rules (sdTCG, BR/VR, SDTM, SENDIG, Define-XML spec, Define-XML completion guidelines, nSDRG completion guidelines and so on). It is challenging to find/hire a new individual for a SEND-focused task.
Submission workload	Workload of keeping up with submissions and determining which studies/compounds to prepare for future submission.
Pinnacle 21 differences	Issues with differences in validation results among Pinnacle 21 versions. CROs and vendors use Pinnacle 21 Community but we use Pinnacle 21 Enterprise and when we run validation we receive different errors and warnings then our CROs or vendors.
Staff training, different trial types	Different trial design requirements, staff awareness/experience

Q13. SEND Implementation comments 2/2

Brief	Full comment
Excel files	Excel as source is usually a nightmare.
Workload	Size of team becoming too small to handle the increasing workload.
Workload	Lack of mgmt understanding of what resources are needed to create a SEND dataset internally in the timeframe required and to create datasets for studies for open IND's
Study designs and changes, 3rd party BioA, baseline, fasting	Complicated study designs and post-initiation changes can be challenging; data still on paper or software that is not SEND-compliant; 3rd party BioA vendors not accommodating SEND format; Other = FDA stance on baseline and fasting flags - these are not recorded in our data, but we are repeatedly asked to include in SEND, leading to SEND having "raw data" not found elsewhere in the study documentation
SEND package differences	unpredictable changes between review versions of SEND packages. Traceability overview is lacking.

Q14. Please share information on your successes, with overcoming challenges. cont'd

Brief	Full comment
Streamlining automation	Since early 2017 we have implemented tools for the SEND generation and quality checking process. we had internally set a goal in 2016 itself to do a check that assures 100% QC of all data and the regeneration of the summary data from the report. The streamlining automating and tuning of the SEND generation and quality assurance processes was critical by 2017.
SEND data package specification	Creation of SEND data package specification to unify understanding of SEND data packages between CRO and Sponsor. The specification is prepared before beginning creation of SEND data package.
Cross functional meetings, internal templates and checklists	Regular cross-functional meetings and communication with submission management, program coordinator, and subject matter expert (in-life, pathology, etc.) groups has increased our efficiency and effectiveness. Developing internal templates and checklists for dataset package creation and QC.
Using SEND datasets for analysis	Since using tools to electronically analyze SEND datasets, I try to avoid whenever possible analyzing toxicology studies from PDF reports. The ability to sort data based on results is the basis of any toxicology analysis, and having good tools and standardized data are critical for this. My recommendation, if I may, is to encourage training sessions of toxicologists on the use of electronic tools to analyze SEND datasets. It is an unbelievable facilitator of necessary data analysis that for some companies is just too time consuming to do manually. Main challenges: 1) availability of SEND datasets usually occurs after finalization of PDF report, and most sponsors don't want to wait the extra 1 - 2 months for SEND availability. However, even under this less than ideal scenario, SEND datasets can be analyzed for NDA/ BLA submissions, where it is important to do cross-study analyses, which are easily done with electronic tools and SEND datasets. 2) I often need to do my own QC on SEND datasets, and often find that parameters may be missing and additional data are present in SEND dataset but not the PDF report.

Q14. Please share information on your successes, with overcoming challenges cont'd

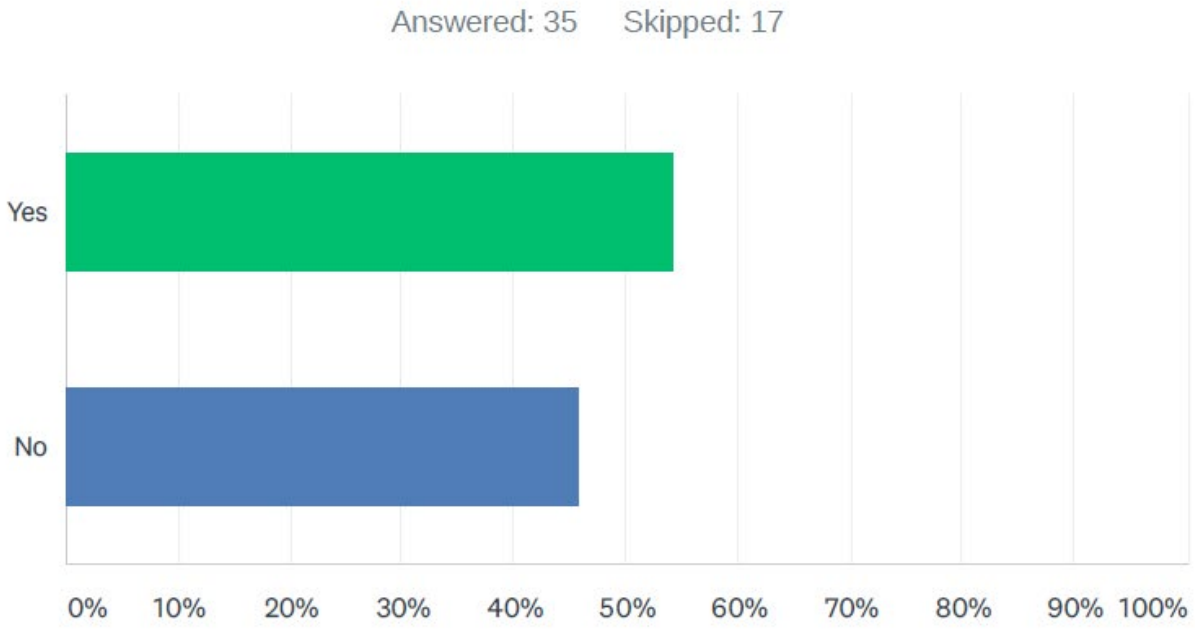
Brief	Full comment
Study data summaries, reconciler, custom cohort analysis, semantic transformation	Automation and generation of Study Data summaries as a machine readable reference file or use with a reconciler to calibrate SEND data sets - for assuring consistency; and use the Trial Design Mapping with terminology mapping to provide toxicologists the flexibility to analyze custom cohorts ad hoc. Semantic transformation of SEND data into a universal data model for cross-study search and analysis
Engagement, education	Engaging all contributors, continuing education
Model for consolidating	Found it successful in making a model for creating the consolidated raw dataset for a single SEND Domain
Documenting edit process	We contract out the majority of SEND datasets. For the datasets that we do in-house, we have generated a guide to document the edits that have to be made to the dataset files and the processes that need to be followed.
Using SEND datasets for analysis	Analyzing SEND datasets is so much easier than analyzing PDF reports, especially when there are a lot of findings in a study and it is necessary to look across domains for individual animals.
Draft SEND delivery	We implemented a draft SEND delivery prior to the first effective date. We were well-positioned for the scenario when a draft report is used in an IND-submission. Our primary software vendor and inhouse partners in operations and science are highly supportive of the SEND initiative.

Q15. Which of the following FDA webinars and presentations did you find informative and timely?

Most Common Issues with CDISC-SEND Data in FDA Toxicology Review, SBIA Webinar Series, Sep 12, 2019	82.35%	28
The FDA Study Data Technical Conformance Guide v4.4, SBIA Webinar Series, Nov 22, 2019	67.65%	23
FDA Presentations at the PHUSE Connect, Feb 2019	35.29%	12
FDA Presentations at the PHUSE CSS, Jun 2019	44.12%	15

Comments
We hope that presentation material (e.g., videos and slide decks) can become more easy to access from Japan and Japan Standard Time.
FDA presentations at PhUSE and CDISC have been very transformative by driving our roadmap, and automation tools for quality and efficiency
Didn't attend the webinars
Haven't heard any of these.
Hearing directly from the FDA and their QC subcontractors is beyond valuable for internal decision-making and explaining implementation to sponsors

Q16. Have you received feedback from the FDA regarding SEND submissions?



ANSWER CHOICES	RESPONSES	
Yes	54.29%	19
No	45.71%	16
TOTAL		35

Q17. Please share the general topic(s) of the FDA feedback and whether you made changes to your processes as a result of the feedback

All Responses

n=10	Full feedback
Define file, nSDRG formatting	In 2017, we had received some feedbacks on an early test submission that pointed out certain comments regarding the Define file and nSDRG particularly with respect to the formatting issues. Since the receipt of the comments we have implemented several extended validation rules that check for issues wrt define and nSDRG.
Field level metadata, trial domain codesets	Including additional field level metadata and trial domain codesets in the define.xml file.
CT, domain attributes, define, baselines, decodes	Define population (e.g. metadata lengths, controlled terminology,domain specific attributes); Time point naming and presentation, decoding in nsdrg or define, baseline flags; Implemented changes to our processes both on the data collection side and also implemented manual edits to accommodate the requests.
Define file, nSDRG formatting	Format suggestions on nSDRG and Define.xml in one of the earlier studies in 2018

Q17.

Please share the general topic(s) of the FDA feedback and whether you made changes to your processes as a result of the feedback

All Responses, cont'd

Draft datasets	We submitted a SPA and did not include the datasets with the submission, since we did not think the draft datasets were required (ie, only thought we needed to send the final datasets). The FDA requested that we send the draft datasets and then send the final datasets when available. This interaction reinforced the need for SEND datasets to be submitted to the FDA regardless of submission type.
	Evaluating
Code list subsets	Requirements to define subsets of code lists in Define file.
Define file	Only just received the feedback this week - currently in the process of assessing them. All relatively minor comments, no actionable requests, majority of comments pertain to the define file.
Fasting, baselines, decodes	Mostly on the define and nSDRG, fasting and baseline flags, and coded numbers in LB domain. Yes, we have used this feedback as business justification for software improvements.
Certain variable content	Missing content in certain variables not previously considered an implementation priority. These variables are now populated as per FDA feedback.

Summary Lessons from the FDA feedback (n=10)

Dos:	Don'ts:
Set fasting and baseline flags	Submit draft/interim reports without SEND data
Define file: Field level meta data	Use generic time point names
Define file: Trial domain codesets	Confuse Decodes and Codes
Define file: Code lists subset for study	Incorrect metadata lengths

Q18.

What ideas do you have for PHUSE deliverables that would help improve your SEND readiness and implementation?

All Responses

n=10	Full comment
Tools for SEND data -> tables lists and figures for Study Protocol, Study Report	If the PhUSE publish tools to efficiently use SEND data packages (e.g, Creation tools of Tables, Lists and Figures, Creation tools to write Study Protocol and Study Report, Visualization tool, Cross study analysis tools), efficacy of implementation of SEND may be understood by toxicologist and their supervisor. It is seemed that when they understand value of electronic data of nonclinical study, SEND readiness and implementation will be improved shortly.
As-tabulated standard to easily compare and regenerate summary tables from SEND	Develop a standard for the digital version (Tabulated columnar) of the Summarized Tables Figures and Listings (TFLs) generated ONLY from the Signed audited study report to be used as a reference for consistency checking and ability to regenerate the summary from SEND. (This is a generalized form of what “ASTAB” is intended to accomplish). ***NOTE – this is part of CDISC responsibilities***
CT updating process	Sharing of processes for updating Controlled Terminology regularly.
SEND data -> study data analysis	Demonstration of how to use SEND datasets for data analysis of toxicology studies.

Q18.

What ideas do you have for PHUSE deliverables that would help improve your SEND readiness and implementation?

All Responses cont'd

n=10	Full comment
Study Report Reference file standard for tabulation data	We have a draft standard for representing a Study Report's summary data expressed as a columnar tabulation in a SDTM like tabulation model. This tool acts as a general purpose ASTAB (as-Tabulated) file for use with scripts to reconcile and check consistency of SEND generated groups summaries with Study Report. We invite PhUSE to further develop and publish this Study Report Reference file as a standard for use by the industry or FDA
Basic training	additional basic training webinars ***NOTE- CDISC should provide basic training on CDISC standard usage***
Education updates	Continue to provide opportunities for educational updates/awareness.
Standardize models for collection	Improved/standarised methods in collecting the data, so that it would be helpful to understand and implement in SEND ***Note – Biocelerate has a project for protocol template***
QC datasets	A common tool that can be used to QC SEND datasets for consistency with reports.
Clarity – raw vs reported data vs reported text	Clarity on what the SEND dataset should represent - raw data, reported data, report text? We have received comments on the study director's text and use of different terms than are found in the data. We have not changed the dataset, since the SD's text is not raw data.

Thank you for your participation in the survey.